United States Steel Corporation
Mon Valley Works – Clairton Plant
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Michael S. Rhoads
Plant Manager
U. S. Steel Mon Valley Works
Clairton Plant

January 25, 2019

Ms. Jayme Graham
Air Quality Program Manager
Allegheny County Health Department
301 39th Street, Bldg. No. 7
Pittsburgh, PA 15201-1891

Via email

Dear Ms. Graham:

RE: United States Steel Corporation – Mon Valley Works – Clairton Plant
Weekly Update Regarding Breakdown Reports #21256, 2157, and 2158
No. 2 Control Room, No. 5 Control Room, and Battery Stacks

Pursuant to the Allegheny County Health Department's (ACHD) request, the following is the weekly update regarding the above-referenced breakdowns. This update supplements the Mitigation Plan that was submitted on January 7, 2019; and updates submitted on January 9, 11, and 18, 2019.

As we discussed, U. S. Steel is employing significant resources around the clock to investigate the incident. While the investigation is being completed, we have expended and continue to expend substantial personnel and financial resources to employ mitigation efforts to reduce the potential impacts from the incident. We remain committed to employing actions only when such actions can be done in a manner that is safe for our employees, contractors, and the public and when potential impacts to the environment can be minimized.

Significant work items completed the week of January 20-26

1. Remaining gas blank installation completed
2. 13 sub suction gas valves removed and sent out for repair
3. C-533 1st stage axial compressor removed from building
4. Building tarping and steam heaters installed
5. Began demolition of fire suppression piping to oil lube oil cellars
6. Scaffold installed in roof trusses to access fire suppression equipment
7. New structural cross members and roof deck install on south end of building
8. Completed phase 1 of electrical Bus inspections and repairs

Significant work items planned for the week of January 27- February 2

1. Crane lift into the building of repaired 1st stage axial compressor
2. Crane lift into the building of repaired 2nd stage axial compressor
3. Crane lift into the building of 3 axial compressor 1500hp motors
4. Remove and replace roof decking on the north end of building
5. Pour new concrete pump pads for lube oil system

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6. Continue repairs of sub gas suction valves
7. Begin demo of injection water piping
8. Continue fabrication of new injection water piping
9. Continue demolition of fire suppression piping
10. Continue removing gas piping and valves
11. Continue repairs of axial compressors
12. Continue rebuild of lube oil systems
13. Continue repairs to gas monitoring systems

To date, among other efforts, we have utilized natural gas (displacing coke oven gas) to the extent practicable.

Previous Mitigation Methods Implemented and Reported for SO2 Control detailed in the following documents:

1. Mitigation Plan 01-07-19
2. Mitigation Plan Supplemental Report 01-09-19
3. Mitigation Plan 01-11-19
4. Mitigation Plan 01-18-19

Consideration of Possible Additional Mitigation Steps:

As we discussed, we understand ACHD's expectation that U. S. Steel consider additional mitigation steps in the event data indicate that such measures are warranted.

We are investigating other mitigation steps to be taken including:

1. Continue to evaluate processes and operations to identify ways to minimize environmental impact and ensure battery integrity and stack compliance.

Operating Data Summary

Table 1. Summary of coking times, normal vs. current operations.

Battery	Normal Coking Time (hrs)	Previously Reported Coking Times	Current Coking Times
1	22	22	23 (Increased on 1/14)
2	22	22	23(Increased on 1/14)
3	22	22	23(Increased on 1/14)
13	18	21.5	22
14	18	21.5	22
15	18	21.5	22

19	18	22.5	24 (Increased on 1/25)
20	18	22.5	24 (Increased on 1/25)
B	18	20	20
C	18	20	21 (Increased on 1/17)

Please note that on January 14, 2019, we increased the coking time on Batteries 1, 2, and 3 from 22 hours to 23 hours. On January 15, we increased 20 Battery coking time from 22.5 to 23.5 hours. On January 17, we increased C Battery coking time from 20 to 21 hours. On January 25, we increased 19 and 20 Batteries to 24 hours as an additional mitigation measure. We continue to monitor the battery and environmental performance.

Table 2. Summary of fuel percentages, normal vs. current operations.

Emission Units	Normal Operating Fuel Usage				Current Operating Fuel Usage			
	Natural Gas	*Coke Oven Gas*	*Blast Furnace Gas*	*Flow (MMCFD)*	*Natural Gas*	*Coke Oven Gas*	*Blast Furnace Gas*	*Flow (MMCFD)*
Clairton Underfire Gas		100%	--	90	60%	40%	--	90
Clairton No. 1 Boiler	13%	87%	--	25	90-95%	5-10%	--	25
Clairton No. 2 Boiler		100%	--	11	80-90%	10-20%	--	11
ET Boilers		4%	96%	270	2-3%	2-3%	90-95%	270
ET Blast Furnaces	50%	50%		25	100%	--		25
ET No. 1 Stove		1-2%	98-100%	38	1%	1%	98-100%	38
ET No. 3 Stove		1-2%	98-100%	35	1%	1%	98-100%	35
Irvin No. 1 Boiler	5-10%	90-95%	--	1.3	90-95%	5-10%	--	1.3
Irvin Hot Strip Mill	25%	75%	--	21	80-90%	10-20%	--	21
Irvin No. 2 Boiler	5-10%	90-95%	--	1.4	90-95%	5-10%	--	1.4
Irvin No. 3 Boiler	5-10%	90-95%	--	0.5	90-95%	5-10%	--	0.5
Irvin No. 4 Boiler	5-10%	90-95%	--	0.5	90-95%	5-10%	--	0.5
Irvin HPH Annealing	5-10%	90-95%	--	1	90-95%	5-10%	--	1

Irvin OCA Annealing	5-10%	90-95%	--	1	90-95%	5-10%	--	1
Irvin Continuous Annealing	5-10%	90-95%	--	0.5	90-95%	5-10%	--	0.5
Irvin No. 1 Galvanize	100%		--	0.25	100%		--	0.25
Irvin No. 2 Galvanize	100%		--	0.14	100%		--	0.14

As noted above, since our January 9, 2019 update, we increased the use of natural gas to offset coke oven gas at the Irvin Hot Strip Mill. In addition, on January 10, 2019, we increased the use of natural gas on Clairton Boiler No. 1. Clairton underfire natural gas percentage increased from 40% to 60%. We continue to monitor these efforts.

While we are expediting our efforts to bring the facility back to normal operation, we remain committed to employing actions only when such actions can be done in a manner that is safe for our employees, contractors, and the public; and when potential impacts to the environmental can be minimized.

Also, as has been discussed previously, we remain committed in openly communicating with the ACHD regarding this matter. We appreciate your site visit and we welcome your return to the facility. If you have any questions regarding this update, please contact Mike Dzurinko or me.

Sincerely,

Michael S. Rhoads

cc: Jim Kelly (ACHD)
Jason Willis, Esq. (ACHD)
Mike Dzurinko (USS)
Chip Babst, Esq. (Babst Calland)
Mike Winek, Esq. (Babst Calland)
David Hacker, Esq. (USS)

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February 13, 2019

BY CERTIFIED MAIL – RETURN RECEIPT REQUESTED

Kurt Barshick
General Manager
U. S. Steel Mon Valley Works
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Dravosburg, PA 15122
Certified Mail # 7016 2710 0001 0903 0537

David D. Burritt, President and CEO
U.S. Steel Corporation
600 Grant Street, 33rd Floor
Pittsburgh, PA 15219
Certified Mail # 7016 2710 0001 0903 0544

Dear Sirs:

I write on behalf of PennEnvironment and Clean Air Council (collectively, the "Citizen Groups"). We request the opportunity to meet with you within 45 days to discuss resolution of the matters raised in this letter.

This letter is being provided pursuant to Section 304(b) of the Clean Air Act, 42 U.S.C. § 7604(b).

On December 24, 2018, a fire at the Mon Valley Works Clairton Plant ("Clairton Works") damaged the facility. Because of damage caused by the fire, Clairton Works has failed to operate key pollution control devices, including the Desulfurization Plant. Since the fire, Clairton Works has nonetheless continued to operate its coke oven batteries, to generate coke oven gas, and to combust this coke oven gas without first processing it to remove sulfur and other pollutants. Air quality in the Mon Valley area has declined as a result. The Allegheny County Health Department (ACHD) has repeatedly urged residents to limit their outdoor activities because the poor air quality presents a health risk.

The Citizen Groups believe that since the fire, Mon Valley Works, including Clairton Works, the nearby Irvin Plant, and the Edgar Thomson Plant, has operated in violation of

numerous requirements in federal Clean Air Act operating permits. The nature of those violations, to the extent known at this time, is set forth below.

U.S. Steel's Mon Valley Operations and Permits

United States Steel Corporation ("U.S. Steel") owns and operates Clairton Works, the Irvin Plant, and the Edgar Thomson Plant, which are part of the Mon Valley Works. Clairton Works is located at 400 State Street in Clairton, Pennsylvania. The Irvin Plant is located off Camp Hollow Road in West Mifflin, Pennsylvania. The Edgar Thomson plant is located at 13th Street and Braddock Avenue in Braddock, Pennsylvania.

Clairton Works is the largest by-products coke plant in North America. Clairton Works' coke batteries produce approximately 10,000 tons of coke per day from the carbonization of more than 16,000 tons of coal. Each year, Clairton Works produces approximately 215 million cubic feet of coke oven gas during the carbonization process. Clairton Works has a Desulfurization Plant, which (when operational) removes sulfur and other pollutants from the coke oven gas before it is burned in flares or used as fuel for various Mon Works processes. The Desulfurization Plant includes, among other things, two Claus Plants, a Shell Claus Off-gas Treating ("SCOT") Plant incinerator, and a Hydrogen Cyanide Destruction Unit.

The Irvin Plant is a secondary steel processing facility. The Irvin Plant receives, and performs finishing processes on, steel slabs. The Irvin Plant includes, among other equipment, four coke oven gas flares and four natural gas- and coke oven gas-fired boilers. Coke oven gas generated at the Clairton Works is piped to the Irvin Plant for use as fuel or for flaring.

The Edgar Thomson Plant is an iron and steel making facility that produces mainly steel slabs. Raw materials such as coke, iron-bearing materials, and fluxes are charged to blast furnaces in the iron- and steel-making processes. There are three Riley Boilers at the Edgar Thomson Plant which are used to generate steam, heat, and electricity for the plant. The three primary fuels for the boilers are blast furnace gas, coke oven gas, and natural gas.

Clairton Works, the Irvin Plant, and the Edgar Thomson Plant are located along the Monongahela River in Allegheny County, Pennsylvania, in an area known as the "Mon Valley." The two facilities are situated near the communities of Clairton, Liberty, Glassport, Port Vue, McKeesport, and other towns. Over 100,000 people live within five miles of each facility. Approximately 20% of nearby residents are children. Allegheny County is in nonattainment for (that is, it is not meeting) National Ambient Air Quality Standards ("NAAQS") for fine particulate matter ("PM-2.5"). Parts of Allegheny County, including the Clairton-Liberty area, are in nonattainment for the NAAQS for sulfur dioxide ("SO_2").

Operating Permit No. 0052, dated Mar. 27, 2012 ("Clairton Permit") imposes emission limits and operating conditions on Clairton Works; Operating Permit No. 0050, dated Dec. 9, 2016 ("Irvin Permit") imposes emission limits and operating conditions on the Irvin Plant; Operating Permit No. 0051, dated April 13, 2016 ("Edgar Thomson Permit") imposes emission limits and operating conditions on the Edgar Thomson Plant. The Clairton, Irvin, and Edgar Thomson Permits (collectively, "the Permits") were issued to U.S. Steel under Title V of the

federal Clean Air Act. A violation of a condition in a Title V permit is a violation of the Clean Air Act. Citizens are authorized to seek enforcement of emission standards and limitations in Title V permits pursuant to Section 304 of the Act, 42 U.S.C. § 7604.

Based on available information, the Citizen Groups believe that U.S. Steel has violated and will continue to violate emission standards and limitations, including emission limits and operational requirements, contained in the Permits' terms and conditions.

Clairton Permit Violations

The emission standards and limitations in the Clairton Permit include "Emission Unit Level Terms and Conditions," which pertain to the operation of Clairton Works' coke oven batteries and its air pollution control systems, among other operations. The Clairton Permit refers to the coke oven batteries in groups, and imposes requirements and restrictions on each of the following groups (collectively, "Permitted Batteries"): Battery Nos. 1, 2, and 3 (at permit section V.A); Battery Nos. 13, 14, and 15 (at permit section V.C); Battery Nos. 19, 20 (at permit section V.E); Battery B (at permit section V.G).

The Permitted Batteries produce coke oven gas ("COG") whenever they heat coal to produce coke. The Clairton Permit requires the plant's pollution control units to be run whenever COG is being produced, and requires removal of sulfur and other pollutants to specified levels before the COG is allowed to be combusted as fuel or in flares.

Publicly available information shows that U.S. Steel has continued to generate COG from the Clairton Works coke oven batteries since the Dec. 24, 2018, fire, without using the Desulfurization Plant and its various pollution control units. By operating its coke ovens without these mandatory control units, U.S. Steel has violated the following terms of the Clairton Permit every day since Dec. 24, 2018, and will continue to violate these terms so long as this practice continues:

1. **General Condition III.I**, which states "[t]he permittee shall not willfully, negligently, or through the failure to provide and operate necessary control equipment or to take necessary precautions, operate any source of air contaminants in such manner that emissions from such source:
    a. Exceed the amounts permitted by this permit or by any order or permit issued pursuant to Article XXI;
    b. Cause an exceedance of the ambient air quality standards established by Article XXI §2101.10; or
    c. May reasonably be anticipated to endanger the public health, safety, or welfare." Clairton Permit at p. 23.

    On each day since Dec. 24, 2018, that Clairton Works (a) generated or will generate COG without pollution control mechanisms in place, (b) caused or will cause an exceedance of NAAQs, and/or (c) was or will be reasonably anticipated to cause or

contribute to air quality conditions that endanger public health or welfare, U.S. Steel has been and will continue to be in violation of this permit requirement.

Publicly available information shows that exceedances of the one-hour NAAQS for SO_2 occurred on the following dates: Dec. 26 (twice) and 28, 2018, and on Jan. 2, 3, and 8 (twice), 2019, at the Liberty air monitor, and on Jan. 7 and Feb. 4, 2019, at the North Braddock air monitor. Exceedances of the 24-hour NAAQS for PM-2.5 occurred on the following dates: Feb. 2, 3, and 4, 2019, at the Liberty air monitor.

In addition, adverse public health and welfare impacts from Clairton Works emissions have been evident every day since Dec. 24, 2018. Evidence of these impacts includes: continuing ACHD health advisories regarding sulfur dioxide and particulate matter for residents of Braddock, Clairton, Dravosburg, Duquesne, East McKeesport, East Pittsburgh, Elizabeth Borough, Elizabeth Township, Forward, Glassport, Jefferson Hills, Liberty, Lincoln, McKeesport, North Braddock, North Versailles, Pleasant Hills, Port Vue, Versailles, Wall, West Elizabeth and West Mifflin[1]; complaints from residents of nearby communities; reports from local physicians and public health personnel documenting increased levels of asthma and other forms of respiratory impacts in the areas surrounding the Mon Valley Works.

2. **Emission Unit Level Conditions V.A(1)(g), V.C(1)(f), V.E(1)(g), and V.G.1(f),** which each provide in relevant part:

"At all times including periods of startup, shutdown, and malfunction, the permittee shall operate and maintain the coke oven batteries and the pollution control equipment required under 40 CFR Part 63, Subpart L, in a manner consistent with good air pollution control

[1] ACHD has issued poor air quality and/or health advisories for at least the following dates: Jan. 9, 2019, ("Mon Valley residents, particularly those with existing respiratory and/or cardiovascular conditions, children and the elderly, are being encouraged to limit outdoor activities until further notice. … High concentrations of sulfur dioxide can affect breathing and may aggravate existing respiratory and cardiovascular disease. Sensitive populations include those with asthma, individuals with bronchitis or emphysema, children, and the elderly. Although it is unknown whether any additional exceedances will occur, ACHD is recommending that Mon-Valley residents limit their outdoor activities, particularly if they are, or may be sensitive to, SO2 particles, while repairs are being made."); Jan 16, 2019 ("We are continuing to encourage Mon Valley residents to be aware of [the] risk [of future exceedances], especially sensitive populations, those with asthma, individuals with bronchitis or emphysema, children, and the elderly. SO2 is a respiratory irritant which can make these conditions worse. We urge residents with these vulnerabilities to protect themselves by limiting their outdoor activities until repair is completed..."); Jan. 30, 2019 ("[R]esidents, especially sensitive populations, should continue to be aware of the potential for SO2 exceedances until repairs at US Steel's Clairton Coke Works are complete."). ACHD warned that Jan. 17, 19, 22, and 23, 2019 and Feb. 1, 2, 3, 5, 6, 7, 10, 11, and 12, 2019 were expected to be "poor air dispersion day[s]" and that "residents, particularly those with existing respiratory conditions may need to limit their outdoor activities."

practices for minimizing emissions to the levels required by any applicable performance standards under Subpart L." Clairton Permit at pp. 47, 78, 109, 141.

The cited regulation requires coke oven operators to install and maintain Control Devices to limit emissions from coke oven batteries. *See* 40 CFR Subpart L. A "Control Device" is "any combustion device, recovery device, recapture device, or any combination of these devices.... Such equipment or devices include, but are not limited to, absorbers, carbon adsorbers, condensers, incinerators, flares, boilers, and process heaters." 40 CFR § 63.1020.

On each day since Dec. 24, 2018, that it operated or will operate the coke oven batteries while any Control Device was not operational, U.S. Steel has been and will be in violation of these permit requirements because of a failure to operate in a manner consistent with good air pollution control practices for minimizing emissions. Available information indicates that such violations have occurred, and will continue to occur, on every day since Dec. 24, 2018.

3. **Emission Unit Level Condition V.K(1)(a)**, which requires that Clairton Works properly maintain and operate its SCOT Plant incinerator according to good engineering and air pollution control practices at all times. Clairton Permit at p. 181.

   On each day since Dec. 24, 2018, that it failed or will fail to operate its SCOT Plant incinerator, U.S. Steel has been and will be in violation of this permit requirement. Available information indicates that such violations have occurred, and will continue to occur, on every day since Dec. 24, 2018.

4. **Emission Unit Level Condition V.K(1)(c)(1) and (2)**, which require that Clairton Works "at all times ... [o]perate one Claus Plant when coke oven gas is being produced," and that each Claus Plant "be capable of independently processing all of the coke oven gas produced by the coke plant at full production." Clairton Permit at p. 181.

   On each day since Dec. 24, 2018, that it produced or will produce COG without sending all sulfur-bearing COG to one of the Claus Plants for desulfurization, U.S. Steel has been and will be in violation of this permit requirement. Available information indicates that such violations have occurred, and will continue to occur, on every day since Dec. 24, 2018.

5. **Emission Unit Level Condition V.K(1)(d)**, which requires that Clairton Works (1) "[o]perate and maintain [a hydrogen cyanide ("HCN")] Destruct Unit at all times that coke oven gas is being produced" and (2) "[h]ave two catalytic reactors in the HCN Destruct Unit, each of which is capable of independently processing all of the feed gas to the HCN Destruct Unit when the coke plant is operating at full production." Clairton Permit at p. 181.

   On each day since Dec. 24, 2018, that it produced or will produce COG without sending all of the feed gas to the HCN Destruct Unit, U.S. Steel has been and will be in violation

of this permit requirement. Available information indicates that such violations have occurred, and will continue to occur, on every day since Dec. 24, 2018.

6. **Emission Unit Level Condition V.K(1)(e)**, which requires that Clairton Works, at all times while producing COG, "[o]perate and maintain a Vacuum Carbonate Unit" and "[o]perate one absorber column and one Axi compressor…." In addition, each absorber column shall be "capable of independently processing all of the gas flow through the Vacuum Carbonate Unit when the coke plant is operating at full production" and each Axi compressor shall be "capable of independently processing all of the acid gases generated at the Vacuum Carbonate Unit when the coke plant is operating at full production ." Clairton Permit at pp. 181-82.

   On each day since Dec. 24, 2018, that it produced or will produce COG without operating a Vacuum Carbonate Unit, an absorber column, or an Axi compressor, or without processing all gas flows that are required to be processed in the absorbers and Axi compressors, U.S. Steel has been and will be in violation of this permit requirement. Available information indicates that such violations have occurred, and will continue to occur, on every day since Dec. 24, 2018.

Based on publicly available information, the Citizen Groups also believe that Clairton Works has likely violated, and will likely continue to violate, numerical emission limits specified in the Clairton Permit since Dec. 24, 2018. Information available to U.S. Steel, but not currently available to the Citizen Groups, contains the dates, locations, and amounts of any such violations of the following permit limitations; the following descriptions of the permit limitations at issue provides U.S. Steel with proper notice of the alleged numerical emission limit violations occurring since Dec. 24, 2018:

7. **Emission Unit Level Conditions V.A(1)(h), V.C(1)(g), V.E(1)(h), and V.G.1(h)**, which each provide in relevant part:

   "The permittee shall not operate, or allow to be operated, any source in such manner that unburned coke oven gas is emitted into the open air. In addition, the permittee shall not flare, mix, or combust coke oven gas, or allow such gas to be flared, mixed or combusted unless the concentration of sulfur compounds, measured as hydrogen sulfide, in such gas is less than or equal to 40 grains per hundred dry standard cubic feet of coke oven gas produced by Clairton Works, when all sulfur emissions from the Claus Sulfur Recovery Plant and the tail gas cleaning equipment thereon, expressed as equivalent H2S are added to the measured H2S. The concentration of sulfur compounds specified shall include the tail-gas sulfur, measured as hydrogen sulfide, emitted from sulfur removal equipment." Clairton Permit at pp. 48, 78, 109-10, 141-42.

8. **Emission Unit Level Condition V.K(1)(j)**, which prohibits any person from flaring, mixing, or combusting COG unless the concentration of sulfur compounds is less than or equal to 10 grains per hundred dry standard cubic feet of COG from Batteries 13, 14, 15, 20, and B, and less than or equal to 40 grains per hundred dry standard cubic feet of COG from the other Permitted Batteries. Clairton Permit at p. 184.

9. **Emission Unit Level Conditions V.AA(1)(b), V.BB(1)(b), V.CC(1)(b), V.DD(1)(b),** which prohibit Clairton Works from flaring, mixing, or combusting COG in Boiler No. 1, Boiler No, 2, Boilers R1 and R2, and Boilers T1 and T2 unless the concentration of sulfur compounds is less than or equal to 40 grains per hundred dry standard cubic feet of COG. Clairton Permit at pp. 241, 244, 247, 250.

10. **Emission Unit Level Condition V.A(1)(v),** which sets a sulfur dioxide ("SO_2") limit of 31.8 pounds per hour and 139.46 tons per year for each combustion stack of Batteries No. 1, 2 and 3. Clairton Permit at p. 49.

11. **Emission Unit Level Condition V.C(1)(v),** which sets an SO_2 limit of 33.5 pounds per hour and 146.5 tons per year for each combustion stack of Batteries No. 13, 14 and 15. Clairton Permit at p. 80.

12. **Emission Unit Level Condition V.E(1)(bb),** which sets an SO_2 limit of 61.53 pounds per hour and 269.48 tons per year for the Battery 19 combustion stack. Clairton Permit at p. 112.

13. **Emission Unit Level Condition V.E(1)(cc),** which sets an SO_2 limit of 61.5 pounds per hour and 269.52 tons per year for the Battery 20 combustion stack. Clairton Permit at p. 112.

14. **Emission Unit Level Condition V.G(1)(v),** which sets an SO_2 limit of 91.5 pounds per hour and 400.95 tons per year for the Battery B combustion stack. Clairton Permit at p. 143.

15. **Emission Unit Level Condition V.AA(1)(j),** which sets an SO_2 limit of 163.50 pounds per hour and 716.11 tons per year for Boiler 1. Clairton Permit at p. 242.

16. **Emission Unit Level Condition V.BB(1)(k),** which sets an SO_2 limit of 103.48 pounds per hour and 453.22 tons per year for Boiler 2. Clairton Permit at p. 245.

17. **Emission Unit Level Condition V.CC(1)(h),** which sets an SO_2 limit of 49.26 pounds per hour and 215.78 tons per year each for Boilers R1 and R2. Clairton Permit at p. 248.

18. **Emission Unit Level Condition V.DD(1)(i),** which sets an SO_2 limit of 33.56 pounds per hour and 146.99 tons per year each for Boilers T1 an T2. Clairton Permit at p. 251.

Irvin Permit Violations

Publicly available information shows that U.S. Steel transports COG from Clairton Works to the Irvin Plant. The limits in the Irvin Permit include "Emission Unit Level Terms and Conditions" which pertain to plant operations, including COG flares, and which place limitations on sulfur content in COG fuels.

Publicly available information also shows that U.S. Steel has used COG as fuel at the Irvin Plant that has not been processed by the Desulfurization Plant at Clairton Works, and has flared this unprocessed COG at the Irvin Plant since Dec. 24, 2018. The Citizen Groups believe that both of these practices have caused ongoing violations of the following terms of the Irvin Permit since Dec. 24, 2018.

19. **General Condition III.1(a)-(c)**, which states "[t]he permittee shall not willfully, negligently, or through the failure to provide and operate necessary control equipment or to take necessary precautions, operate any source of air contaminants in such manner that emissions from such source:
    a. Exceed the amounts permitted by this permit or by any order or permit issued pursuant to Article XXI;
    b. Cause an exceedance of the ambient air quality standards established by Article XXI §2101.10; or
    c. May reasonably be anticipated to endanger the public health, safety, or welfare." Irvin Permit at p. 19.

    On each day since Dec. 24, 2018, that the Irvin Plant (a) operated or will operate equipment utilizing or flaring COG without pollution control mechanisms in place, (b) caused or will cause an exceedance of a National Ambient Air Quality Standard ("NAAQS"), and/or (c) was or will be reasonably anticipated to cause or contribute to air quality conditions that endanger public health or welfare, U.S. Steel has been and will continue to be in violation of this permit requirement.

    Publicly available information shows that exceedances of the one-hour NAAQS for SO_2 occurred on the following dates: Dec. 26 (twice) and 28, 2018, and on Jan. 2, 3, and 8 (twice), 2019, at the Liberty air monitor, and on Jan. 7 and Feb. 4, 2019, at the North Braddock air monitor. Exceedances of the 24-hour NAAQS for PM-2.5 occurred on the following dates: Feb. 2, 3, and 4, 2019, at the Liberty air monitor.

    In addition, adverse public health and welfare impacts from Irvin Plant emissions have been evident every day since Dec. 24, 2018. Evidence of these impacts includes: continuing ACHD health advisories regarding sulfur dioxide and particulate matter for residents of Braddock, Clairton, Dravosburg, Duquesne, East McKeesport, East Pittsburgh, Elizabeth Borough, Elizabeth Township, Forward, Glassport, Jefferson Hills, Liberty, Lincoln, McKeesport, North Braddock, North Versailles, Pleasant Hills, Port Vue, Versailles, Wall, West Elizabeth and West Mifflin[2]; complaints from residents of nearby communities; reports from local physicians and public health personnel documenting increased levels of asthma and other forms of respiratory impacts in the areas surrounding the Mon Valley Works.

[2] See footnote 1, *supra*, for discussion of ACHD's warnings regarding poor air quality issued to area residents for Jan. 9, 16, 17, 19, 22, 23, and 30, 2019, and Feb. 1, 2, 3, 5, 6, 7, 10, 11, and 12, 2019.

Based on publicly available information, the Citizen Groups also believe that the Irvin Plant has likely violated, and will likely continue to violate, numerical emission limits specified in the Irvin Permit since Dec. 24, 2018. Information available to U.S. Steel, but not currently available to the Citizen Groups, contains the dates, locations, and amounts of any such violations of the following permit limitations; the following descriptions of the permit limitations at issue provides U.S. Steel with proper notice of the alleged numerical emission limit violations occurring since Dec. 24, 2018:

20. **Emission Unit Level Condition V.J(1)(a)**, which prohibits the Irvin Plant from flaring, mixing, or combusting COG in Flares No.1 to No. 3 or the Peachtree Flare unless the concentration of sulfur compounds is less than or equal to 35 grains per hundred dry standard cubic feet. Irvin Permit at p. 75.

21. **Emission Unit Level Condition V.A(1)(d)**, which prohibits the Irvin Plant from flaring, mixing, or combusting COG in reheat furnaces No. 1 through No. 5 unless the concentration of sulfur compounds is less than or equal to 35 grains per hundred dry standard cubic feet. Irvin Permit at p. 38.

22. **Emission Unit Level Condition V.E(1)(d)**, which prohibits the Irvin Plant from flaring, mixing, or combusting COG in HPH furnaces No. 1 through No. 31 unless the concentration of sulfur compounds is less than or equal to 35 grains per hundred dry standard cubic feet. Irvin Permit at p. 59.

23. **Emission Unit Level Condition V.F(1)(h)**, which prohibits the Irvin Plant from flaring, mixing, or combusting COG in Open Coil Annealing Furnaces No. 1 through No. 16 unless the concentration of sulfur compounds is less than or equal to 35 grains per hundred dry standard cubic feet. Irvin Permit at p. 63.

24. **Emission Unit Level Condition V.G(1)(f)**, which prohibits the Irvin Plant from flaring, mixing, or combusting COG in the Continuous Annealing Furnace unless the concentration of sulfur compounds is less than or equal to 35 grains per hundred dry standard cubic feet. Irvin Permit at p. 67.

25. **Emission Unit Level Conditions V.K(1)(e), V.L(1)(e), V.M(1)(e), and V.N(1)(d)**, which prohibit the Irvin Plant from flaring, mixing, or combusting COG in Boilers No. 1, 2, 3 or 4 unless the concentration of sulfur compounds is less than or equal to 35 grains per hundred dry standard cubic feet. Irvin Permit at pp. 77, 80, 83, 86.

26. **Emission Unit Level Condition V.A(1)(f)**, which sets an SO_2 limit of 30.12 pounds per hour and 131.91 tons per year for each Hot Mill Reheat Furnace. Irvin Permit at p. 38.

27. **Emission Unit Level Condition V.F(1)(i)**, which sets an SO_2 limit of 1.55 pounds per hour and 6.78 tons per year for each unit of Open Coil Annealing Furnaces 1-9. Irvin Permit at p. 63.

28. **Emission Unit Level Condition V.F(1)(j)**, which sets an SO_2 limit of 1.94 pounds per hour and 8.48 tons per year for each unit of Open Coil Annealing Furnaces 10-13. Irvin Permit at p. 63.

29. **Emission Unit Level Condition V.F(1)(k)**, which sets an SO_2 limit of 0.12 pounds per hour and 0.53 tons per year for Open Coil Annealing Furnace 14. Irvin Permit at p. 64.

30. **Emission Unit Level Condition V.F(1)(n)**, which sets an SO_2 limit of 1.61 pounds per hour and 7.04 tons per year for each unit of Open Coil Annealing Furnaces 15 and 16. Irvin Permit at p. 64.

31. **Emission Unit Level Condition V.G(1)(g)**, which sets an SO_2 limit of 9.68 pounds per hour and 42.40 tons per year for the Continuous Annealing Furnace. Irvin Permit at p. 68.

32. **Emission Unit Level Condition V.K(1)(f)**, which sets an SO_2 limit of 17.17 pounds per hour and 45.90 tons per year for Boiler No. 1. Irvin Permit at p. 78.

33. **Emission Unit Level Condition V.L(1)(f)**, which sets an SO_2 limit of 18.20 pounds per hour and 45.90 tons per year for Boiler No. 2. Irvin Permit at p. 81.

34. **Emission Unit Level Condition V.M(1)(f)**, which sets an SO_2 limit of 8.95 pounds per hour and 39.20 tons per year for Boiler No. 3. Irvin Permit at p. 84.

35. **Emission Unit Level Condition V.N(1)(e)**, which sets an SO_2 limit of 8.95 pounds per hour and 39.20 tons per year for Boiler No. 4. Irvin Permit at p. 87.

Edgar Thomson Permit Violations

Publicly available information shows that U.S. Steel transports COG from Clairton Works to the Edgar Thomson Plant. The limits in the Edgar Thomson Permit include "Emission Unit Level Terms and Conditions" which pertain to plant operations and place limitations on sulfur content in COG fuels.

Publicly available information also shows that U.S. Steel has, since Dec. 24, 2018, used COG as fuel at the Edgar Thomson Plant that has not been processed by the Desulfurization Plant at Clairton Works. The Citizen Groups believe that both of these practices have caused ongoing violations of the following terms of the Edgar Thomson Permit since Dec. 24, 2018.

36. **General Condition III.1(a)-(c)**, which states "[t]he permittee shall not willfully, negligently, or through the failure to provide and operate necessary control equipment or to take necessary precautions, operate any source of air contaminants in such manner that emissions from such source:
    a. Exceed the amounts permitted by this permit or by any order or permit issued pursuant to Article XXI;

b. Cause an exceedance of the ambient air quality standards established by Article XXI §2101.10; or

c. May reasonably be anticipated to endanger the public health, safety, or welfare." Edgar Thomson Permit at p. 15.

On each day since Dec. 24, 2018, that the Edgar Thomson Plant (a) operated or will operate equipment utilizing COG without pollution control mechanisms in place, (b) caused or will cause an exceedance of a National Ambient Air Quality Standard ("NAAQS"), and/or (c) was or will be reasonably anticipated to cause or contribute to air quality conditions that endanger public health or welfare, U.S. Steel has been and will continue to be in violation of this permit requirement.

Publicly available information shows that exceedances of the one-hour NAAQS for SO_2 occurred on the following dates: Dec. 26 (twice) and 28, 2018, and on Jan. 2, 3, and 8 (twice), 2019, at the Liberty air monitor, and on Jan. 7 and Feb. 4, 2019, at the North Braddock air monitor. Exceedances of the 24-hour NAAQS for PM-2.5 occurred on the following dates: Feb. 2, 3, and 4, 2019, at the Liberty air monitor.

In addition, adverse public health and welfare impacts from Edgar Thomson Plant emissions have been evident every day since Dec. 24, 2018. Evidence of these impacts includes: continuing ACHD health advisories regarding sulfur dioxide and particulate matter for residents of Braddock, Clairton, Dravosburg, Duquesne, East McKeesport, East Pittsburgh, Elizabeth Borough, Elizabeth Township, Forward, Glassport, Jefferson Hills, Liberty, Lincoln, McKeesport, North Braddock, North Versailles, Pleasant Hills, Port Vue, Versailles, Wall, West Elizabeth and West Mifflin[3]; complaints from residents of nearby communities; reports from local physicians and public health personnel documenting increased levels of asthma and other forms of respiratory impacts in the areas surrounding the Mon Valley Works.

Based on publicly available information, the Citizen Groups also believe that the Edgar Thomson Plant has likely violated, and will likely continue to violate, numerical emission limits specified in the Edgar Thomson Permit since Dec. 24, 2018. Information available to U.S. Steel, but not currently available to the Citizen Groups, contains the dates, locations, and amounts of any such violations of the following permit limitations; the following descriptions of the permit limitations at issue provides U.S. Steel with proper notice of the alleged numerical emission limit violations occurring since Dec. 24, 2018:

37. **Emission Unit Level Condition V.A(1)(f)**, which prohibits the Edgar Thomson Plant from flaring, mixing, or combusting COG in Blast Furnaces No. 1 or Blast Furnace No. 3 unless the concentration of sulfur compounds is less than or equal to 35 grains per hundred dry standard cubic feet. Edgar Thomson Permit at p. 35.

[3] See footnote 1, *supra*, for discussion of ACHD's warnings regarding poor air quality issued to area residents for Jan. 9, 16, 17, 19, 22, 23, and 30, 2019, and Feb. 1, 2, 3, 5, 6, 7, 10, 11, and 12, 2019.

38. **Emission Unit Level Condition V.B(1)(c)**, which prohibits the Edgar Thomson Plant from flaring, mixing, or combusting COG in Blast Furnaces No. 1 Stoves or Blast Furnace No. 3 Stoves unless the concentration of sulfur compounds is less than or equal to 35 grains per hundred dry standard cubic feet. Edgar Thomson Permit at p. 51.

39. **Emission Unit Level Condition V.D(1)(e)**, which prohibits the Edgar Thomson Plant from flaring, mixing, or combusting COG in the Basic Oxygen Process Shop unless the concentration of sulfur compounds is less than or equal to 35 grains per hundred dry standard cubic feet. Edgar Thomson Permit at p. 58.

40. **Emission Unit Level Condition V.F(1)(a)**, which prohibits the Edgar Thomson Plant from flaring, mixing, or combusting COG in the Dual Strand Continuous Caster shop unless the concentration of sulfur compounds is less than or equal to 35 grains per hundred dry standard cubic feet. Edgar Thomson Permit at p. 88.

41. **Emission Unit Level Condition V.G(1)(b)**, which prohibits the Edgar Thomson Plant from flaring, mixing, or combusting COG as additional fuel in the preheating and drying of the degasser vessel unless the concentration of sulfur compounds is less than or equal to 35 grains per hundred dry standard cubic feet. Edgar Thomson Permit at p. 92.

42. **Emission Unit Level Condition V.H(1)(e)**, which prohibits the Edgar Thomson Plant from flaring, mixing, or combusting COG in Riley Boilers No. 1, 2, or 3 unless the concentration of sulfur compounds is less than or equal to 35 grains per hundred dry standard cubic feet. Edgar Thomson Permit at p. 95.

43. **Emission Unit Level Condition V.B(1)(d)**, which sets an SO_2 limit of 353.03 pounds per hour and 1546.26 tons per year for each set of stoves for Blast Furnaces No. 1 and No. 3. Edgar Thomson Permit at p. 51.

44. **Emission Unit Level Condition V.B(1)(d)**, which prohibits the Edgar Thomson Plant from operating No. 1 or No. 3 Blast Furnace Stoves "in such a manner that emissions of sulfur oxides, expressed as sulfur dioxide (SO2), exceed the rate determined by the formula: A = 1.7E-0.14," where "A = allowable emissions in lbs/MMBtu of actual heat input; and E = actual heat input in MMBtu/hr." Edgar Thomson Permit at p. 52.

45. **Emission Unit Level Condition V.F(1)(c)**, which sets an SO_2 limit of 23.0 tons per year for the Caster Tundish Preheaters 3. Edgar Thomson Permit at p. 89.

46. **Emission Unit Level Condition V.H(1)(j)**, which sets an SO_2 limit of 371.35 pounds per hour and 1626.52 tons per year for each Riley Boiler, No. 1, 2 and 3. Edgar Thomson Permit at p. 96.

According to publicly available information, the Citizen Groups believe the violations described above will continue after the date of this notice letter.

If you believe any of the above information is incorrect, if you take steps to permanently correct any of the described violations, if you believe you are currently in compliance with the Permits and the Clean Air Act at these facilities, or if you have any questions concerning this letter or the described violations, please contact me as soon as possible by email at josh.kratka@nelconline.org, by phone at (617) 747-4333, or my regular mail at my office address. As mentioned above, we would like to meet with you within 45 days to discuss resolution of the matters raised in this letter.

Sincerely,

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